

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-24 (canceled)

Claim 25 (new): A method of fabricating an organic photosensitive optoelectronic device, the method comprising:

depositing a hole transport layer over a first electrode, the hole transport layer formed of a first photoconductive organic semiconductor material;

depositing an electron transport layer over the hole transport layer, the electron transport layer formed of a second photoconductive organic semiconductor material;

depositing a first exciton blocking layer over the electron transport layer; and

depositing a second electrode over the first exciton blocking layer.

Claim 26 (new): The method of claim 25, further comprising depositing a second exciton blocking layer over the first electrode, such that the hole transport layer is deposited over the second exciton blocking layer.

Claim 27 (new): The method of claim 25 wherein the first exciton blocking layer is a hole blocking layer.

Claim 28 (new): The method of claim 26 wherein the first exciton blocking layer is a hole blocking layer, and the second exciton blocking layer is an electron blocking layer.

Claim 29 (new): The method of claim 25 wherein the first photoconductive organic semiconductor material and the second photoconductive organic semiconductor material are selected to have spectral sensitivity in the visible spectrum.

Claim 30 (new): The method of claim 27 wherein:

the electron transport layer is 3,4,9,10-perylenetetracarboxylic-bis-benzimidazole;

the hole transport layer is copper phthalocyanine; and

the hole blocking layer is 2,9-dimethyl-4,7-diphenyl-1,10-phenanthroline.

Claim 31 (new): The method of claim 28 wherein:

the electron transport layer is 3,4,9,10-perylenetetracarboxylic-bis-benzimidazole;

the hole transport layer is copper phthalocyanine; and

the hole blocking layer is 2,9-dimethyl-4,7-diphenyl-1,10-phenanthroline; and

the electron blocking layer is selected from the group consisting of 4,4',4''-tris{N, -(3-methylphenyl)-N-phenylamino} triphenylamine or polyethylene dioxythiophene.

Claim 32 (new): The method of claim 25 wherein the organic photosensitive optoelectronic device comprises an organic photodetector.

Claim 33 (new): The method of claim 25 wherein the organic photosensitive optoelectronic device comprises an organic solar cell.

Claim 34 (new): A method of fabricating an organic photosensitive optoelectronic device, the method comprising:

- depositing a first exciton blocking layer over a first electrode;
- depositing a hole transport layer over the first exciton blocking layer, the hole transport layer formed of a first photoconductive organic semiconductor material;
- depositing an electron transport layer over the hole transport layer, the electron transport layer formed of a second photoconductive organic semiconductor material;
- and
- depositing a second electrode over the electron transport layer.

Claim 35 (new): The method of claim 34, further comprising depositing a second exciton blocking layer over the electron transport layer, such that the second electrode is deposited over the second exciton blocking layer.

Claim 36 (new): The method of claim 34 wherein the first exciton blocking layer is an electron blocking layer.

Claim 37 (new): The method of claim 35 wherein the first exciton blocking layer is an electron blocking layer, and the second exciton blocking layer is a hole blocking layer.

Claim 38 (new): The method of claim 34 wherein the first photoconductive organic semiconductor material and the second photoconductive organic semiconductor material are selected to have spectral sensitivity in the visible spectrum.

Claim 39 (new): The method of claim 36 wherein:

the electron transport layer is 3,4,9,10-perylenetetracarboxylic-bis-benzimidazole;

the hole transport layer is copper phthalocyanine; and

the electron blocking layer is selected from the group consisting of 4,4',4''-tris{N, -(3-methylphenyl)-N-phenylamino}triphenylamine and polyethylene dioxythiophene.

Claim 40 (new): The method of claim 37 wherein:

the electron transport layer is 3,4,9,10-perylenetetracarboxylic-bis-benzimidazole;

the hole transport layer is copper phthalocyanine; and

the hole blocking layer is 2,9-dimethyl-4,7-diphenyl-1,10-phenanthroline; and

the electron blocking layer is selected from the group consisting of 4,4',4''-tris{N, -(3-methylphenyl)-N-phenylamino}triphenylamine and polyethylene dioxythiophene.

Claim 41 (new): The method of claim 34 wherein the organic photosensitive optoelectronic device comprises an organic photodetector.

Claim 42 (new): The method of claim 34 wherein the organic photosensitive optoelectronic device comprises an organic solar cell.